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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,630	06/28/2001	Seigi Aoyama	3008-28	4486

20457 7590 11/19/2002

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ARLINGTON, VA 22209

EXAMINER

DINH, TUAN T

ART UNIT PAPER NUMBER

2827

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,630

Applicant(s)

AOYAMA ET AL.

Examiner

Tuan T Dinh

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7 and 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 09 September 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 9/9/02 have been fully considered but they are not persuasive.

Applicant argues:

(a) Tucker lacks the required amount of phosphorous recited in claims 2 and 4.

(b) Tucker does not include the required mass of silver as recited in claims 2 and

4.

(d) Applicant requests to reconsider of claim 8.

Examiner disagrees.

Response to argument (d), applicant is elected Embodiment I having Figures 1-2. The Figures 1-2 directly show a composition of a connection lead and not being used in any structures of electrical apparatus. Claim 8-13 directly teach an electrical component structure to be used with the connection lead, and not shown in figures 1-2 as.

Response to argument (a), Tucker discloses the required amount of phosphorous from 0.002-0.015% (0-0.1%, column 1, line 37).

Response to argument (b), Tucker discloses the required mass of silver from 2-5% (column 1, lines 43-46).

Claim Objections

2. Claim 2 objected to because of the following informalities:

Claim 2, line 1, change "The lead-free solder" to --A lead-free solder--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2, and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Tucker et al. (U. S. Patent 4,929,423).

As to claims 2, and 14-17, Tucker discloses a lead-free solder (column 1, line 7) comprising:

an alloy composition (column 1, lines 22-23) exclude bismuth (column 1, line 35) containing 2.0 to 5.0% by mass of silver (0.05-5.0%, column 1, lines 44-45), 0.01 to 2.0% by mass of copper (0.1-0.7%, column 1, lines 43-44), and 0.002 to 0.15% by mass of phosphorus (0-0.1%, column 1, lines 37-38) with a balance consisting of tin (column 1, line 39).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-5 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Kenji et al (hereafter PA, figures 1 and 2 submitted by applicant) in view of Tucker et al. (U. S. Patent 4,929,423).

As to claims 4-5, and 7, Kenji discloses a connection lead as shown in figures 1-2 comprising:

a copper strip (1) or other strip conductor; and

a plating (2a, 2b) provide on at least one side of the strip conductor, said plating being formed of a lead-free solder composed mainly of tin, and has a shape such that the plating in a widthwise direction of the strip conductor having a bulge as viewed in section with an apex being located at a proper position in the widthwise direction of the strip conductor.

Kenji does not show said plating containing 0.002 to 0.015% by mass of phosphorus, 2.0-5.0% by mass of silver, 0.01-2.0% by mass of copper, with the balance consisting of tin.

Tucker teaches a lead free solder (column 1, line 7) containing 0.002 to 0.015% by mass of phosphorus (0-0.1%, column 1, lines 37-38) and having a shape such that the plating in a widthwise direction.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a small weight of phosphorus of a lead free solder as taught by Tucker to employ the connection lead of PA in order to provide of high melting point of tin solder, and also reduce lead used in plumbing solder for public supply

system carrying drinking water because of the fear that the small amount of lead dissolved in water and ingested over a long period of time maybe detrimental for health.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers

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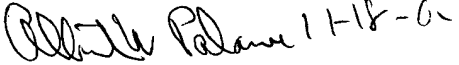
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for the organization where this application or proceeding is assigned are 703-305-1341 for regular communications and 703-305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TD

November 14, 2002.


ALBERT W. PALADINI
PRIMARY EXAMINER